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SMITH, GAMBRELL & RUSSELL
1130 CONNECTICUT AVENUE, N.W., SUITE 1130
WASHINGTON, DC 20036

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RECORD OF ORAL HEARING

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte HELMUT MANGOLD, WOLFGANG LORTZ,
RAINER GOLCHERT and HELMUT ROTH

Appeal No. 2009-015243
Application No. 10/020,920
Technology Center 1700

Oral Hearing Held: June 8, 2010

Before EDWARD C. KIMLIN, PETER F. KRATZ, and MARK NAGUMO, *Administrative Patent Judges.*

APPEARANCES:

ON BEHALF OF THE APPELLANT:

THOMAS G. WISEMAN, ESQUIRE
Smith, Gambrell & Russell, LLP
1130 Connecticut Avenue, N.W.
Suite 1130
Washington, D.C. 20036

CLERK: Good morning. Calendar Number 17, Appeal No. 2009-015243, Mr. Wiseman.

JUDGE KIMLIN: Good afternoon, Mr. Wiseman.

MR. WISEMAN: Gentlemen.

JUDGE KIMLIN: You can begin when you're ready.

MR. WISEMAN: Good afternoon, it's a pleasure to be here.

The positions of the Examiner and Appellant are pretty clearly set forth in the Answer in the Appeal Brief respectively.

The Appellant's invention kind of resides in a discovery that if you use a particular threshold amount of potassium during the pyrogenic preparation of silica, you impart properties to the silica that were not present in the starting material.

The potassium-doped pyrogenic silica has at the threshold concentration -- undergoes certain morphological changes, and these morphological changes impart to the product some desirable characteristics, including a particular particle-size distribution, a particular intergrowth characteristic.

The particle-size distribution is defined by a quotient Dn/Da. When this particular quotient is closer to 1, you have a homogenous distribution. When it's at the .7 value, you have a preponderance of particular particle types.

There are other properties because of the morphological change on the surface caused by the potassium. There are other properties that are normally associated with pyrogenic silica which are changed. The pH structure -- it's a low structure -- it's reflected by the CMP values.

Because of the low structure suggested by the CMP values, you get this result in low viscosity in Palmer. Most particularly, the range of potassium content adds to this particular distribution highly desirable properties for use in CMP processes.

Applicant's specification show, by comparison, between the doped and undoped silicas the certain desirable traits which are part of the particular process.

There's an EM photograph shown in Figure 1, which compares to one shown in Figure 2 for the doped product. The DBP values in Figure 3 versus Figure 4, Figure 4 being the doped product.

Again, Figures 5 through 7 EM photograph showing the advantages and changes in particle size from the undoped particle.

There are particle count differences shown by Figures 8 through 10, Figures 11 through 13; and you can also see the quotient value, which I mentioned earlier, is a calculation done from the undoped product on Example 1, 0.52, and Example 7 the value is .86.

JUDGE NAGUMO: Is there something you could point to as the difference between a sample with .5 percent --

MR. WISEMAN: Let me get to that. That's what the issue is. I dealt with the Examiner --

JUDGE NAGUMO: Anything, just a little bit more.

MR. WISEMAN: -- that is what the essence of the problem is. That's why we're here today because of Example 5 in Mangold. That particular one employs a percentage .5 and the claims call for the KCI solution value to a greater value than .5.

The way I look at the situation is the product claims raise separate issues from the process. To practice this particular process, if you look at Mangold's teaching, there's no recognition that you can get the particle distribution. It's not talked about or discussed beyond the .5 value. During the prosecution, which has gone on since 2001 now with various Examiners, you have had rejections come and go. The anticipation rejection based on Mangold alone was withdrawn. The idea was the product was inherently taught in Example 5.

JUDGE NAGUMO: Mangold teaches a wide range of doped compositions --

MR. WISEMAN: The Examiner points that out.

JUDGE NAGUMO: Why would that range not have been obvious, or are we relying on unexpected results?

MR. WISEMAN: Once we've shifted from the anticipation, we moved over to unexpected results. The unexpected results would be the particle distribution and the ability to be able to achieve an abrasive composition and the particular particle distribution in two steps. There's no filtration. You perform those two steps, the reaction and recovery step -- it recovers that product directly from the reaction mixture.

JUDGE NAGUMO: What's the ratio at the .5 percent? For example 5? How big a break do we suddenly see at .501 versus .5?

MR. WISEMAN: I've looked through the examples, and we don't really have a major break at that particular point; but we've demonstrated in the specification -- I have not been provided with a showing to show you that there is an exact break at that particular point.

JUDGE KIMLIN: Isn't Mangold also one of the present inventors?
MR. WISEMAN: Yes, he is.
JUDGE KIMLIN: It would seem like that inventor would be in a good position to place on record a comparison between what he partook in before and what he invented now in terms of particle size distribution, doping distribution.
MR. WISEMAN: Well, the information that I have to show you is in the specification and in the breakout there; and the comparison, as the Examiner pointed out, repeatedly is between doped and undoped.
All I can say is there's conditions that are slightly different between them, and it's in the Brief; and the Examiner acknowledges that there are differences in experimental conditions.
So, you know, as suggested to you, the process claims are not similarly situated with the product claims.
I'm a little bit concerned about the product claims in that the anticipation rejection was withdrawn so -- you know, it seems to be an admission on the Examiner's part that, you know, the product is not anticipated by this particular reference. It's not inherent in Example 5.
If we talk about the process claims, it's clear that if you want to get to the particular result, you follow the teachings provided in the spec, you'll be able to produce potassium-doped pyrogenic silica having a very desirable distribution.
You can do it in the two steps, and I have two process claims for you. One consisting of closed language, and one with the open language. In both

instances, the recovery step is requiring recovery of a particular product from the reaction chambers.

That product is not described in Mangold. If you look at Mangold, there's no reason to suspect that you could recover that type of product. The Examiner relies on secondary references to suggest filtration, to suggest ionization.

I look at those references more, since they don't teach the potassium concentrations, I look at those references more as teaching that there is a desirability of producing a product which has that quotient closer to 1 than not.

So I put in the closed language and put in the specific recovery step to distinguish over Mangold, as best I could, relative to the process. Those conditions are not taught.

The Examiner talks about optimization. Yes, I can optimize, but what am I optimizing for? There's no result-dependent variable relative to particle distribution or the traits that relate or correlate with that particular distribution, such as, you know, viscosity, low structure, and items like that. It's just not taught.

I can optimize for doping purposes, but, you know, the doping can be like CCM or the noble metals, it can be a catalyst in doping for catalytic purposes, not necessarily going to give you the conditions which Applicant found to be conducive for forming a CMP-type composition in two steps.

With regards to the product claims, you know, there are slight differences. There are differences in the preparatory conditions.

As I mentioned in the Appeal Brief, if you look at the characteristics that are

recited in the tables, you can see there are differences relative to Mangold and Mangold II in the recent application.

The issue relative to whether these particular property differences render the product patentable, to be distinct from that taught in Mangold was not really developed during the prosecution. It would appear to me though that if you have a pH in the more alkaline range, if you dope the surface you get a higher pH than you do on a regular pyrogenic silica.

Pyrogenic silica is usually in the 3-4 range, and if you dope the surface with potassium, you get a pH of 5 or 6, in that particular range.

If you look at Hall, the higher pH ranges seem to be more desired. They salinize in all to get particular characteristics.

That's the best arguments I can make for you based on that. There is not an experimental comparison relative to the products. There's just arguments made relative to differences in additions and those things are pointed out in the Appeal Brief.

The Examiner doesn't address them except she notes there are differences, and she notes the differences, from her point of view, are not as significant as she had reason to feel comfortable with.

I know this particular Examiner, I've worked with her in the past in these general areas. I know when she sees subject matter she will actually call and tell you and work with you to come up with appropriate language.

You know, she has from my point of view -- she has concerns. Whether her concerns should be both as to the process and to the product, you know, I'm not entirely certain.

You know, the arguments as best I can make relative to the process claims,

Mangold is a process, and the Mangold in both, and it's the same assignee. You know, why would they file another application if they didn't think there were some differences that would merit, you know, seeking protection? When I used to be at NIH, I didn't file stuff unless there was a reason.

JUDGE NAGUMO: Going back to the process aspect for a moment, the Step B consisting of Claim 10 has recovering this material from the reactor. Is there something you can point to in the specification that would limit that recovering step to as little as reaching into the reactor and pulling it out? I mean, there's a lot that could go under recovery. It seems to be potentially a very broad term. Is there something --

MR. WISEMAN: If you look at the nature of the process and how the reactor functions, at the recovery of the product from the filter cyclone, it seems like it's a more immediate recovery of the product. It's created in the reaction zone.

There's force of air flow moving the product through the particular reaction zone, and there's a collection down stream where this particular product is attained.

I agree with you in certain ways. The thought crossed my mind when I was writing it as recovery, and you are also faced with the idea of written description and support. Recovery, from my point of view, was clearly supported.

This particular process and apparatus appear in a number of applications. So it looks like it was a feature of the process, and the apparatus used was this would suggest it was pulled off downstream and was obtained.

My experience having dealt with the inherency issue, both on the inside and

in the Office, many times you could advance prosecution by putting in a recovery step wherein one to recover the particular product would have to know that it exists, and then you could obtain some sort of patent protection via the recovery step, as opposed to just a reaction step.

So that's why that was done. That particular recovery issue really didn't get developed during prosecution. For some of these issues to get developed requires two parties, and all I can do is respond when somebody raises that particular issue, you know, as I am now in the manner I'm responding to your question.

JUDGE KIMLIN: Our time is just about up, if you want to sum it up.

MR. WISEMAN: I believe all the points I wanted to bring to your attention specifically I have.

JUDGE KIMLIN: The issues seem pretty clear.

Thank you for coming, good seeing you again.

Whereupon, the proceedings at 3:24 were concluded.